



Global fish production and climate change

Author(s): Brander KM
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Abstract:

Current global fisheries production of approximately 160 million tons is rising as a result of increases in aquaculture production. A number of climate-related threats to both capture fisheries and aquaculture are identified, but we have low confidence in predictions of future fisheries production because of uncertainty over future global aquatic net primary production and the transfer of this production through the food chain to human consumption. Recent changes in the distribution and productivity of a number of fish species can be ascribed with high confidence to regional climate variability, such as the El Nino-Southern Oscillation. Future production may increase in some high-latitude regions because of warming and decreased ice cover, but the dynamics in low-latitude regions are governed by different processes, and production may decline as a result of reduced vertical mixing of the water column and, hence, reduced recycling of nutrients. There are strong interactions between the effects of fishing and the effects of climate because fishing reduces the age, size, and geographic diversity of populations and the biodiversity of marine ecosystems, making both more sensitive to additional stresses such as climate change. Inland fisheries are additionally threatened by changes in precipitation and water management. The frequency and intensity of extreme climate events is likely to have a major impact on future fisheries production in both inland and marine systems. Reducing fishing mortality in the majority of fisheries, which are currently fully exploited or overexploited, is the principal feasible means of reducing the impacts of climate change.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2148362>

Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Exposure :

weather or climate related pathway by which climate change affects health

Climate Change and Human Health Literature Portal

Ecosystem Changes, Food/Water Security

Food/Water Security: Fisheries

Geographic Feature: 

resource focuses on specific type of geography

Freshwater, Ocean/Coastal

Geographic Location: 

resource focuses on specific location

Global or Unspecified

Health Impact: 

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation: 

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: 

format or standard characteristic of resource

Review

Resilience: 

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: 

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content